

CLAIMS

1. A nickel-base alloy comprising, by mass, at least 29% but less than 42% chromium, more than 1% and not more than 3% tantalum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen and 0.05 to 0.5% manganese, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
2. A nickel-base alloy comprising, by mass, at least 29% but less than 42% chromium, more than 1% and not more than 3% tantalum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen, 0.05 to 0.5% manganese and 0.1 to 2% molybdenum, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
3. A nickel-base alloy comprising, by mass, at least 29% but less than 42% chromium, more than 1% and not more than 3% tantalum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen, 0.05 to 0.5% manganese, and one or both of 0.05 to 1.0% iron and 0.01 to 0.1% silicon, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
4. A nickel-base alloy comprising, by mass, at least 29% but less than 42% chromium, more than 1% and not more than 3% tantalum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen, 0.05 to 0.5% manganese, 0.1 to 2% molybdenum, and one or both of 0.05 to 1.0% iron and 0.01 to 0.1% silicon, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
5. A structural member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.

6. A manifold member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.
7. A pipe member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.
8. A fastener member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.
9. A support plate member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.
10. A separator member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 1, 2, 3 or 4.
11. A nickel-base alloy comprising, by mass, more than 43% and not more than 50% chromium, 0.1 to 2% molybdenum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen, and 0.05 to 0.5% manganese, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
12. A nickel-base alloy comprising, by mass, more than 43% and not more than 50% chromium, 0.1 to 2% molybdenum, 0.001 to 0.05% magnesium, 0.001 to 0.04% nitrogen, 0.05 to 0.5% manganese, and one or both of 0.05 to 1.0% iron and 0.01 to 0.1% silicon, with the balance being nickel and inadvertent impurities, the amount of carbon included in the alloy as inadvertent impurities being not more than 0.05%.
13. A structural member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.

14. A manifold member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.

15. A pipe member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.

16. A fastener member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.

17. A support plate member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.

18. A separator member for a polymer electrolyte fuel cell, which member is made of the nickel-base alloy according to claim 11 or 12.